

# DISCOVERY OF THE WORKER CASTE OF *PLATYTHYREA CLYPEATA* FOREL AND A NEW SPECIES OF *PROBOLOMYRMEX* MAYR IN YUNNAN, CHINA (HYMENOPTERA: FORMICIDAE) \*

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**Abstract** The worker caste of the ant species *Platythyrea clypeata* Forel is discovered and described for the first time. The genus *Platythyrea* Roger and the species *P. clypeata* Forel are newly recorded in China. Two species of the genus *Probolomyrmex* Mayr are recorded in China: *P. longinodus* Terayama et Ogata from Taiwan Province, and *P. longiscapus* sp. nov. from Yunnan Province.

**Key words** Formicidae, *Platythyrea*, *Probolomyrmex*, new species

The ant genus *Platythyrea* Roger is distributed over the world tropics, 38 species of the genus were described in the world (Bolton 1995), among them 12 species were reported from Indo-Australian (Brown 1975). Brown (1975) had a revision of the genus. In this study, the worker caste of *Platythyrea clypeata* Forel is discovered in Xishuangbanna Nature Reserve of Yunnan Province and described for the first time. The genus *Platythyrea* Roger and the species *P. clypeata* Forel are newly recorded in China.

The genus *Probolomyrmex* Mayr is distributed over the world tropics and Japan, 13 species of the genus were known in the world (Bolton, 1995), among them 7 species were reported in South and Southeast Asia. Taylor (1965) had a monographic revision of the genus and 9 species were treated. Terayama (1990) reported *P. longinodus* Terayama et Ogata in Taiwan Province and the genus were recorded in China for the first time. In this study, a new species of the genus is described from Xishuangbanna Nature Reserve of Yunnan Province, which becomes the second Chinese species of *Probolomyrmex*.

Standard measurements and indices are as defined in Holldobler *et al.* (1990): TL = total length, HL = head length, HW = head width, CI = cephalic index, SL = scape length, SI = scape index, PW = pronotal width, AL = alitrunk length, ED = maximum diameter of eye, ML = mandibular length, PNL = petiolar node length, PNW = petiolar node width, PH = petiole height. All measurements are expressed in mm.

The type specimens are deposited in The Insect Collection, Faculty of Resources, Southwest Forestry College, Kunming, Yunnan Province, P. R. China.

## *Platythyrea* Roger, New Record in China

*Platythyrea* Roger, 1863, Berlin. *Entomol. Zeitschr.*, 7: 172. Type-species:

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*Pachycondyla punctata* Smith, by subsequent designation of Bingham, 1903: 73.

Range: World tropics.

***Platythyrea clypeata* Forel, New record in China (Figs. 1—3)**

*Platythyrea clypeata* Forel, 1911, *Bull. Soc. Vaud. Sci. Nat.* **47**: 378 (Queen), Southeast Asia.

*Platythyrea thwaitesi* Donisthorpe, 1931, *Ann. Mag. Nat. Hist.* (10) **8**: 496 (Queen), Sri Lanka. Junior synonym of *P. clypeata*: Brown, 1975: 8.

Forel (1911) described *P. clypeata* from Southeast Asia based on queen caste. Another species *P. thwaitesi* Donisthorpe, which was revised as a junior synonym of *P. clypeata* by Brown, was also described on queen caste. So only queen caste of *P. clypeata* was known before this study. During the course of study on bio-diversity of ants of Xishuangbanna Nature Reserve, the worker caste of *P. clypeata* was discovered for the first time. The single worker well conformed to *P. clypeata* according to the key and figures of Brown (1975) although with the following difference: the worker caste with petiolar node slender and roundly convex at apex, petiole and gaster blackish brown. A full description is provided for the worker caste as below.

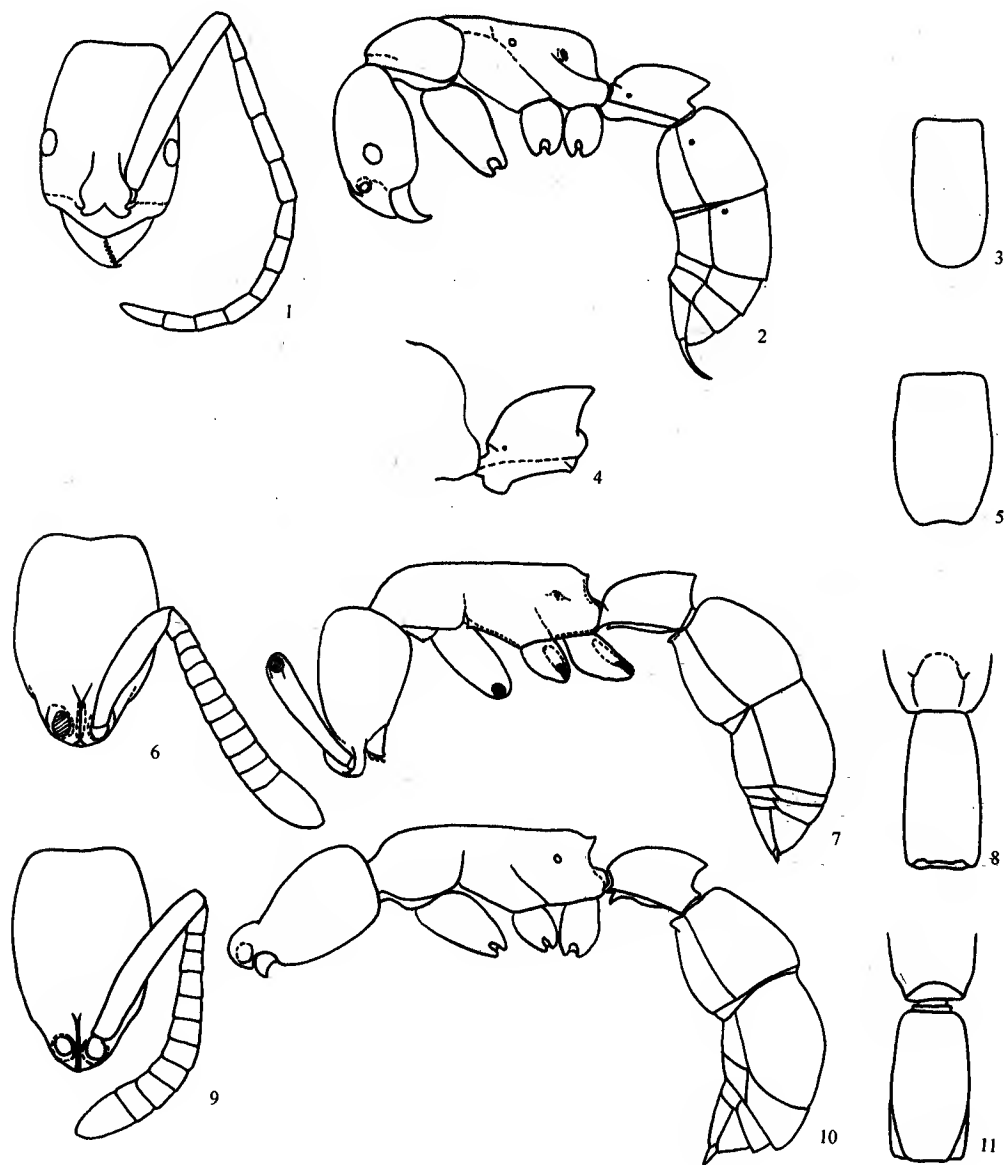
Worker: TL 8.7, HL 1.90, HW 1.20, CI 63, SL 1.93, SI 161, PW 1.10, AL 3.00, ED 0.23, ML 0.67, PNL 1.07, PNW 0.53, PH 0.70 (1 measured). Head roughly rectangular, longer than broad, weakly narrowed backward. In full-face view occipital margin almost straight, slightly emarginate in the center. Occipital corners blunt. Lateral sides of head weakly convex. Mandible with 8 teeth. Clypeus convex, anterior margin extruded as a blunt angle in the middle. Eyes flat. Antennae long, scape surpassed occipital corner by about 1/4 of its length. In profile view dorsum of alitrunk at the same level, promesonotal suture distinct, metanotal groove absent. Dorsum of propodeum longer than declivity, posterodorsal corner of propodeum rounded. Propodeal spiracle seam-like. In profile view petiolar node longer than high, the node inclined backward, anterodorsal corner rounded, posterodorsal corner formed an acute angle. In dorsal view the node rectangular, about 2 times as long as broad, posterior border complete and rounded. Subpetioar process low and rounded at apex. Constriction between the two basal segments of gaster indistinct. Body surface finely shagreened and sparsely punctured. Dorsum of head and body and appendages without hairs, but with dense depressed pubescence. Body in color brown, petiole and gaster blackish brown, flagella and tarsi yellowish brown.

Material examined: 1 worker, No. A97—2318, 1280m, Papo Village, Meng' a Town, Menghai County, Yunnan Province, collected from a ground sample of secondary monsoon evergreen broad-leaf forest, Sep. 10, 1997 (XU Zheng-hui).

Distribution: China (Yunnan Province); Sri Lanka; Southeast Asia.

**Key to species of *Probolomyrmex* of China based on worker caste**

- Apex of scape reach to posterior 1/4 of head length, SI 117. Propodeal teeth smaller. In dorsal view petiolar node not narrowed backward (Figs. 6—8) (China: Taiwan Province; Japan) ..... *P. longinodus* Terayama et Ogata
- Apex of scape almost reached to occipital margin, SI 133—136. Propodeal teeth larger. In dorsal view petiolar node narrowed backward (Figs. 9—11) (China: Yunnan Province) ..... *P. longiscapus* sp. nov.



**Figs. 1—11** Workers and queen of *Platythyrea* and *Probolomyrmex*.

1—3. *Platythyrea clypeata* Forel, worker; 4—5. *Platythyrea clypeata* Forel, queen, after Brown (1975); 6—8. *Probolomyrmex longinodus* Terayama et Ogata, worker, after Terayama and Ogata (1988); 9—11. *Probolomyrmex longiscapus* sp. nov., worker. 1, 6, 9. Head in full-face view; 2, 7, 10. body in profile view; 3, 5. petiolar node in dorsal view; 4. propodeum and petiole in profile view; 8, 11. propodeum and petiolar node in dorsal view.

***Probolomyrmex longiscapus* sp. nov.** (Figs. 9—11)

Holotype worker: TL 3.0, HL 0.70, HW 0.45, CI 64, SL 0.60, SI 133, PW 0.36, AL 0.96, PNL 0.38, PNW 0.20, PH 0.26. Head distinctly longer than broad, anterior 1/4 narrowed obviously. Occipital margin nearly straight, very shallowly emarginate, occipital corner blunt. Lateral sides of head evenly convex. Anterior margin of clypeus convex. Frontal carinae erect, close to each other and parallel for most of their length, anterior apices reached to anterior margin of clypeus. Apex of scape almost reached to occipital margin. Antennal segments 3—6 about as broad as long, segments 7—11 broader than long. In full-face view mandibles invisible. In profile view dorsum of alitrunk straight, promesonotal suture and metanotal groove absent. Propodeum with a pair of triangular teeth, declivity depressed and marginate laterally. In profile view petiolar node longer than high, anterior and dorsal faces formed an even arch, posterodorsal corner formed an acute angle, posterior face depressed and marginate laterally. Ventral face of petiole convex, anteroventral corner with a slender tooth. In dorsal view petiolar node rectangular, lateral sides nearly parallel, posterior 1/3 narrowed backward, posterior border straight. Constriction between the two basal segments of gaster distinct. Surfaces of head and the whole body shagreened. Head and alitrunk weakly and sparsely punctured. Petiole and gaster distinctly punctured. Dorsum of head and body, and appendages without erect hairs, but with dense decumbent short pubescence. Body in color reddish brown.

Paratype worker: TL 2.8, HL 0.70, HW 0.44, CI 63, SL 0.60, SI 136, PW 0.34, AL 0.94, PNL 0.38, PNW 0.19, NH 0.24 ( $n=1$ ). As holotype.

Holotype: worker, No. A98—537, 820m, Nanqian Village, Mengla County, Yunnan Province, collected from a soil sample of hilly land shrub, Mar. 11 1998 (ZENG Guang). Paratype: 1 worker, with same data as holotype.

This new species is close to *P. longinodus* Terayama et Ogata (Figs. 6—8), but head relatively long (CI=67 in *P. longinodus*); occipital margin almost straight; scape much longer (SI=117 in *P. longinodus*), apex almost reached to occipital margin; propodeal teeth larger; in dorsal view posterior 1/3 of petiolar node narrowed backward.

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角唇宽猛蚁工蚁的发现及中国云南小盲猛蚁属一新种记述(膜翅目:蚁科)

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首次发现并描述角唇宽猛蚁 *Platythyrea clypeata* Forel 的工蚁。宽猛蚁属 *Platythyrea* Roger 和角唇宽猛蚁 *P. clypeata* Forel 为中国新记录属种。在中国记载小盲猛蚁属 *Probolomyrmex* Mayr 2 种: 长结小盲猛蚁 *P. longinodus* Terayama et Ogata 分布于台湾省, 长柄小盲猛蚁 *P. longiscapus* sp. nov. 新种分布于云南省。

关键词 蚁科 宽猛蚁属 小盲猛蚁属 新种